

AMENDMENTS
In the Claims

Canceled Claims

Claims 33-45 are not designated as being canceled. These claims were the subject of an election/restriction requirement and are now pending in a divisional applications. Therefore, Applicant are not canceling these claims to evidence a decision to dedicate the claims to the public, but because these claims are already the subject of a divisional application cancellation merely facilitates amendment entry.

Claim Status

1.(currently amended) A pharmaceutical composition for treating osteoporosis comprising consisting essentially of at least one zwitterionic phospholipid and at least one bisphosphonate.

1 2.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present
2 in an amount sufficient to reduce GI toxicity of the bisphosphonate and the bisphosphonate
3 is present in an amount sufficient to reduce bone resorption.

1 3.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present
2 in an amount sufficient to reduce GI toxicity of the bisphosphonate and improve
3 bisphosphonate bio-availability when the composition is taken with food and the
4 bisphosphonate is present in an amount sufficient to reduce bone resorption, increase in bone
5 density and/or reduce bone fractures.

1 4.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 0.1 mg per dose and about 1000 mg per dose and a ratio of bisphosphonate to
3 zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1 5.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 1 mg per dose and about 500 mg per dose and a ratio of bisphosphonate to zwitterionic

1 phospholipid is between about 1:0.5 and about 1:50.

1 6.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 2 mg per dose and about 50 mg per dose and a ratio of bisphosphonate to zwitterionic
3 phospholipid is between about 1:1 and about 1:10.

1 7.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 2 mg per dose and about 20 mg per dose and a ratio of bisphosphonate to zwitterionic
3 phospholipid is between about 1:1 and about 1:5.

1 8.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present
2 in an amount sufficient to reduce GI toxicity of the bisphosphonate and the bisphosphonate
3 is present in an amount sufficient to reduce bone resorption, increase in bone density and/or
4 reduce bone fractures.

1 9.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 0.1 mg per dose and about 1000 mg per dose and a ratio of
3 bisphosphonate to zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1 10.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 1 mg per dose and about 500 mg per dose and a ratio of
3 bisphosphonate to zwitterionic phospholipid is between about 1:0.5 and about 1:50.

1 11.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 2 mg per dose and about 50 mg per dose and a ratio of
3 bisphosphonate to zwitterionic phospholipid is between about 1:1 and about 1:10.

1 12.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 2 mg per dose and about 20 mg per dose and a ratio of

bisphosphonate to zwitterionic phospholipid is between about 1:1 and about 1:5.

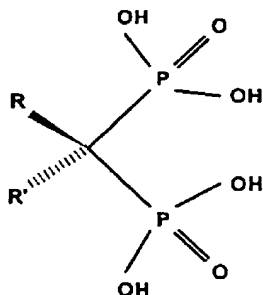
13.(original) The composition of claim 1, wherein the zwitterionic phospholipid increases the bio-availability of the bisphosphonate from about 2 to about 20 fold.

14.(original) The composition of claim 1, wherein the bisphosphonate is in its zwitterionic form and forms an ionic association complex with the zwitterionic phospholipid.

15.(currently amended) The composition of claim 1, further comprising consisting essentially of a colloidal metal, a metal complex or a mixture or combination thereof.

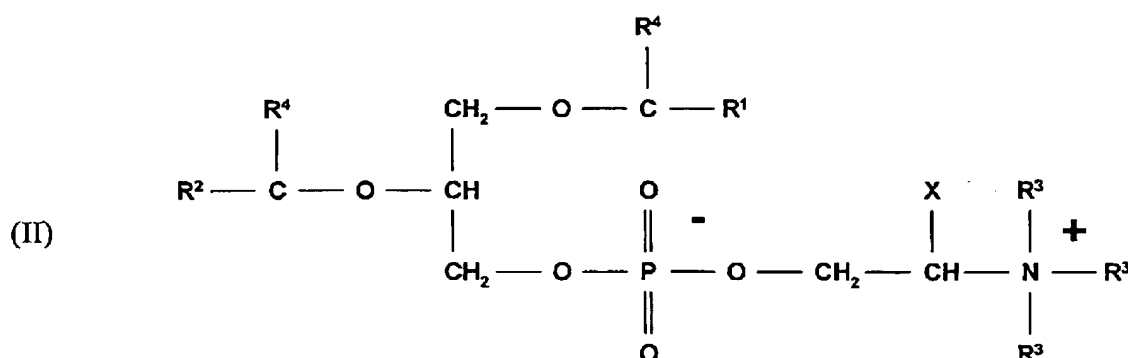
16.(original) The composition of claim 1, wherein the bisphosphonate is characterized by the general formula (I):

(I)



where R' is H, OH or Cl and R is: (a) an alkyl group having 1 to 6 carbon atoms, optionally substituted with amino, alkylamino, dialkylamino or heterocyclyl, where the alkyl groups in alkylamino and dialkylamino substituents have 1 to 5 carbon atoms and are the same or different in the case of the dialkylamino substituted alkyl groups; (b) a halogen; (c) an arylthio, preferably chlorosubstituted; (d) a cycloalkylamino having 5 to 7 carbon atoms; or (e) a saturated five or six membered nitrogen containing heterocyclyl having 1 or 2 heteroatoms.

17.(original) The composition of claim 1, wherein the phospholipid is characterized by the of general formula (II):



where R_1 and R_2 are saturated or unsaturated substitutions ranging from 8 to 32 carbon atoms; R_3 is H or CH_3 , and X is H or COOH ; and R_4 is $=\text{O}$ or H_2 .

18.(original) The composition of claim 1, wherein the bisphosphonate is selected from the group consisting of 3-amino-1-hydroxypropylidene-1,1-bisphosphonic acid (pamidronate), 4-amino-1-hydroxybutylidene-1,1-bisphosphonic acid (alendronate), N,N-dimethyl-3-amino-1-hydroxypropylidene-1,1-bisphosphonic acid (mildronate, olpadronate), 1-hydroxy-3- (N-methyl-N-pentylamino) propylidene-1,1-bisphosphonic acid (ibandronate), 1-hydroxy-2-(3-pyridyl) ethylidene-1,1-bisphosphonic acid (risedronate), 1-hydroxyethylidene-1,1-bisphosphonic acid (etidronate), 1-hydroxy-3- (1-pyrrolidiny) propylidene-1,1-bisphosphonic acid, 1-hydroxy-2- (1-imidazolyl) ethylidene-1,1-bisphosphonic acid (1-imidazolyl) ethylidene-1,1-bisphosphonic acid (zoledronate), 1-hydroxy-2- (imidazo [1,2-a] pyridin-3-yl) ethylidene-1,1-bisphosphonic acid (minodronate), 1- (4-chlorophenylthio) methylidene-1,1-bisphosphonic acid (tiludronate), 1- (cycloheptylamino) methylidene-1,1-bisphosphonic acid (cimadronate, incadronate), 6-amino-1-hydroxyhexylidene-1,1-bisphosphonic acid (neridronate) and pharmaceutically acceptable salts thereof and mixtures and combinations thereof.

1 19.(original) The composition of claim 1, wherein the bisphosphonate is selected from the
2 group consisting of risedronate, alendronate, pamidronate and their pharmaceutically
3 acceptable salts and mixtures and combinations thereof.

1 20.(original) The composition of claim 1, wherein the zwitterionic phospholipid is selected
2 from the group consisting of phosphatidyl cholines, phosphatidyl ethanolamines,
3 phosphatidylinositol, phosphatidyl serines sphingomyelin or other ceramides, phospholipid
4 containing oils, and mixtures and combination thereof.

1 21.(original) The composition of claim 1, wherein the zwitterionic phospholipid is selected
2 from the group consisting of phosphatidyl choline (PC), dipalmitoylphosphatidylcholine
3 (DPPC), other disaturated phosphatidyl cholines, lecithin oils and mixture and combinations
4 thereof.

1 22.(currently amended) A pharmaceutical composition, for treating osteoporosis,
2 comprising consisting essentially of a pharmaceutically effective amount of a bisphosphonate
3 to reduce bone resorption and a sufficient amount of a zwitterionic phospholipid to reduce
4 GI toxicity and increase the bio-availability of the bisphosphonate.

1 23.(original) The composition of claim 22, the effective amount of the bisphosphonate
2 comprises between about 0.1 mg per dose and about 1000 mg per dose and the sufficient
3 amount of zwitterionic phospholipid is such that a ratio of bisphosphonate to zwitterionic
4 phospholipid is between about 1:0.1 and about 1:100.

1 24.(currently amended) The composition of claim 22, further comprising consisting
2 essentially of a colloidal metal, a metal complex or mixtures or combinations thereof.

1 25.(currently amended) A pharmaceutical composition comprising a carrier; and a
2 pharmaceutically active component consisting essentially of a pharmaceutically effective

1 amount of a bisphosphonate to reduce bone resorption and a sufficient amount of a
2 zwitterionic phospholipid to reduce GI toxicity and increase the bio-availability of the
3 bisphosphonate, where the phospholipid is in its zwitterionic form and the bisphosphonate
4 is in its zwitterionic form.

1 26.(original) The composition of claim 25, wherein effective amount of the bisphosphonate
2 is between about 0.1 mg per dose and about 1000 mg per dose and the sufficient amount of
3 zwitterionic phospholipid is such that a ratio of bisphosphonate to zwitterionic phospholipid
4 is between about 1:0.1 and about 1:100.

1 27.(currently amended) The composition of claim 25, ~~further comprising~~ wherein the
2 pharmaceutically active component further consisting essentially of a colloidal metal, a metal
3 complex or a mixture or combination thereof.

1 28.(original) The composition of claim 25, wherein the medication is to be taken orally.

1 29.(original) The medication of claim 25, wherein the medication is to be taken orally with
2 food.

1 30.(currently amended) An oral medication for treating osteoporosis comprising an solid
2 object comprising an inert carrier; and a pharmaceutical composition consisting essentially
3 of a pharmaceutically effective amount a bisphosphonate to reduce bone resorption and an
4 amount of a zwitterionic phospholipid sufficient to reduce GI toxicity and increase the bio-
5 availability of the bisphosphonate.

1 31.(original) The medication of claim 30, wherein the effective amount of the
2 bisphosphonate is between about 0.1 mg per dose and about 1000 mg per dose and the
3 sufficient amount of zwitterionic phospholipid is such that a ratio of bisphosphonate to
4 zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1 32.(currently amended) The medication of claim 30, further comprising wherein the
2 pharmaceutical composition further consisting essentially of a colloidal metal, a metal
3 complex or a mixture or combination thereof.

1 33.(canceled)

2 34.(canceled)

3 35.(canceled)

4 36.(canceled)

5 37.(canceled)

6 38.(canceled)

7 39.(canceled)

8 40.(canceled)

9 41.(canceled)

10 42.(canceled)

11 43.(canceled)

12 44.(canceled)

13 45.(canceled)

1 46.(currently amended) A pharmaceutical composition for treating osteoporosis
2 comprising consisting essentially of at least one zwitterionic phospholipid and at least one
3 bisphosphonate, where the phospholipid is in its zwitterionic form and the bisphosphonate
4 is in its zwitterionic form.

1 47.(currently amended) A pharmaceutical composition, for treating osteoporosis,
2 comprising consisting essentially of a pharmaceutically effective amount of a bisphosphonate
3 to reduce bone resorption and a sufficient amount of a zwitterionic phospholipid to reduce
4 GI toxicity and increase the bio-availability of the bisphosphonate, where the phospholipid
5 is in its zwitterionic form and the bisphosphonate is in its zwitterionic form.

1 48.(currently amended) An oral medication for treating osteoporosis comprising an solid
2 object comprising an inert carrier; and a pharmaceutical composition consisting essentially
3 of a pharmaceutically effective amount a bisphosphonate to reduce bone resorption and an
4 amount of a zwitterionic phospholipid sufficient to reduce GI toxicity and increase the bio-
5 availability of the bisphosphonate, where the phospholipid is in its zwitterionic form and the
6 bisphosphonate is in its zwitterionic form.